/FW-B

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re patent application of

Applicant: **Joshua Goodman**
Serial No.:   **10/766,348**
Filed: **January 28, 2004**
For: **EXPONENTIAL PRIORS FOR MAXIMUM ENTROPY MODELS**
Art Unit: 2857
Examiner: **Paul L. Kim**

SUPPLEMENTAL INFORMATION DISCLOSURE STATEMENT

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

1.   Pursuant to 37 C.F.R. §1.97 and §1.98, and in compliance with 37 C.F.R. §1.56, the Office's attention is directed to the patents, publications and other information listed on the attached PTO-1449. A copy of each listed document is enclosed except for: (a) pending applications; (b) those previously cited or submitted to the Office in the following application(s) upon which this application relies for an earlier filing date under 35 U.S.C. §120; and/or (c) U.S. Patent(s) and published applications(s).

Serial No.:   _____   _____
Filing Date: _____   _____

Regarding any document, publication or other information for which a date is not given on the attached PTO-1449, Applicant(s) believe(s) the same may qualify as "prior" art to this application and should be treated accordingly, although Applicant(s) reserve(s) the right to contest the prior art status of any document, publication or information, should issue arise.

2.   Regarding each listed document that is not in the English language, an English-language translation accompanies this Statement as indicated on the attached PTO-1449 or a concise explanation of the relevance of the document is set forth in the following document(s):

      (a) ☐   Copy of each English language version of a search report indicating the degree of relevance found by the foreign office of each document being submitted from the search report.

      (b) ☐   Attachment entitled "Concise Explanation of Relevance of Non-English Language Documents".

3.   Pursuant to 37 C.F.R. §1.97(b) this Statement is being filed (one must be checked):

      (a) ☐   Within 3 months of the filing date or date of entry into the National Stage.

      (b) ☐   Before the mailing date of a first Office Action on the merits. If this Statement is not filed before the mailing date of a first Office Action on the merits, the required certification is given below or, in the absence thereof, the Office is authorized to charge the required fee set forth in 37 C.F.R. §1.17(p) to Deposit Account No. 50-1063 for consideration of this Statement.

      (c) ☐   Before the mailing date of an Office Action after the filing of a request for continued examination under 1.114.
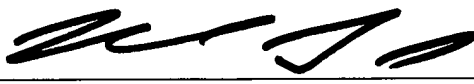
(d) ☒ After the period set forth in 37 C.F.R. §1.97(b) but before the mailing date of either a final action or a notice of allowance.

    (1) ☐ The required certification is given below, <u>or</u>

    (2) ☒ Regarding the fee set forth in 37 C.F.R. §1.17(p) for consideration of this Statement :

        (i) ☐ Enclosed is a check covering the fee;

        (ii) ☐ Charge the fee set forth in 37 C.F.R. §1.17(p) to Deposit Account No. 50-1063; or

        (iii) ☒ Enclosed is a credit card payment form covering the fee.

(e) ☐ After the mailing date of either a final action or a notice of allowance, but before payment of the issue fee. Petition hereby is made for consideration of this Statement and the required certification is indicated below. Regarding the fee set forth in 37 C.F.R. §1.17(i)(1) for consideration of this Statement:

    (1) ☐ Enclosed is a check covering the fee;

    (2) ☐ Charge the fee set forth in 37 C.F.R. §1.17(i)(1) to Deposit Account No. 50-1063; or

    (3) ☐ Enclosed is a credit card payment form covering the fee.

4.   Certification (if applicable)

(a) ☐ The undersigned hereby certifies that each item of information contained in this Statement was cited in a communication from a foreign patent office in a counterpart foreign application not more than 3 months prior to the filing of this Statement.

(b) ☐ The undersigned hereby certifies that no item of information contained in this Statement was cited in a communication from a foreign patent office in a counterpart foreign application or, to the undersigned's knowledge after making reasonable inquiry, was known to any individual designated in 37 C.F.R. §1.56(c) more than 3 months prior to the filing of this Statement.

5.   The Commissioner is hereby authorized to charge any additional fees or credit any overpayment to Deposit Account No. 50-1063.

Respectfully Submitted,
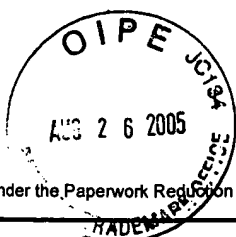
By_____

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Substitute for form 1449B/PTO	Complete if Known	
SUPPLEMENTAL INFORMATION DISCLOSURE STATEMENT BY APPLICANT *(Use as many sheets as necessary)*	Application Number	10/766,348
	Filing Date	January 28, 2004
	First Named Inventor	Joshua Goodman
	Art Unit	2857
	Examiner Name	Paul L. Kim
Sheet 1 of 2	Attorney Docket Number	MS302098.1/MSFTP537US

NON PATENT LITERATURE DOCUMENTS

Examiner Initials*	Cite No.[1]	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T[2]
		M. BANKO and E. BRILL. Mitigating the Paucity of Data Problem: Exploring the Effect of Training Corpus Size on Classifier Performance for NLP. In Proc. of the Conference on Human Language Technology, 2001. 5 pages.	
		A.L. BERGER, et al. A Maximum Entropy Approach to Natural Language Processing. Computational Linguistics, 22(1): 39-71, 1996.	
		S.F. CHEN and R. ROSENFELD. A Survey of Smoothing Techniques for ME Models. IEEE Transactions on Speech and Audio Processing, Vol. 8 No. 1, Jan. 2000. 14 pages.	
		S. DELLA PIETRA, et al. Inducing Features of Random Fields. IEEE Transactions on Pattern Analysis and Machine Intelligence, 19(4): 380-393, 1997.	
		I.J. GOOD. The Population Frequencies of Species and the Estimation of Population Parameters. Biometrika. Vol. 40 No. 3/4, pp. 237-264, 1953.	
		J. GOODMAN. Classes for Fast Maximum Entropy Training. In ICASSP 2001. 4 pages.	
		C.M. KADIE, et al. CFW: A Collaborative Filtering System using Posteriors over Weights of Evidence. In Proc. of UAI, pp. 242-250, 2002.	
		R. KNESER and H. NEY. Improved Backing-off for M-gram Language Modeling. In ICASSP, Vol. 1, pp. 181-184, 1995.	
		W. NEWMAN. An Extension to the Maximum Entropy Method. IEEE Transactions on Information Theory, Vol. IT-23, No. 1, January 1997. 5 pages.	
		J. DARROCH and D. RATCLIFF. Generalized Iterative Scaling for Log-linear Models. The Annals of Mathematical Statistics, 43: 1470-1480, 1972.	

Examiner Signature		Date Considered	

Substitute for form 1449/PTO **SUPPLEMENTAL INFORMATION DISCLOSURE STATEMENT BY APPLICANT** *(Use as many sheets as necessary)*	**Complete if Known**	
	Application Number	10/766,348
	Filing Date	January 28, 2004
	First Named Inventor	Joshua Goodman
	Art Unit	2857
	Examiner Name	Paul L. Kim
Sheet 2 of 2	Attorney Docket Number	MS302098.1/MSFTP537US

NON PATENT LITERATURE DOCUMENTS

Examiner Initials*	Cite No.[1]	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T[2]
		S.F. CHEN and J. GOODMAN. An Empirical Study of Smoothing Techniques for Language Modeling. Computer Speech and Language, 13: 359-394, October 1999.	
		A. RATNAPARKHI. Maximum Entropy Models for Natural Language Ambiguity Resolution. PhD Thesis, University of Pennsylvania, 1998. 163 pages.	
		J. REYNAR and A. RATNAPARKHI. A Maximum Entropy Approach to Identifying Sentence Boundaries. In ANLP, 1997. 4 pages.	
		R. ROSENFELD. Adaptive Statistical Language Modeling: A Maximum Entropy Approach. PhD Thesis, Carnegie Mellon University, April 1994. 114 pages.	
		S. KHUDANPUR. A Method of Maximum Entropy Estimation with Relaxed Constraints. In 1995 Johns Hopkins University Language Modeling Workshop, 1995. 18 pages.	
		P.M. WILLIAMS. Bayesian Regularization and Pruning using a Laplace Prior. Neural Computation, Vol. 7, pp. 117-143, 1995.	

Examiner Signature		Date Considered	

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.
1 Applicant's unique citation designation number (optional). 2 Applicant is to place a check mark here if English language Translation is attached.
This collection of information is required by 37 CFR 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 2 hours to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

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